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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,705	10/29/2003	Stephan Bolz	071308.0473	7534
31625	7590	04/21/2006	EXAMINER	
BAKER BOTTS L.L.P. PATENT DEPARTMENT 98 SAN JACINTO BLVD., SUITE 1500 AUSTIN, TX 78701-4039			CAVALLARI, DANIEL J	
			ART UNIT	PAPER NUMBER
			2836	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,705	BOLZ, STEPHAN	
	Examiner	Art Unit	
	Daniel J. Cavallari	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/29/03, 5/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The examiner acknowledges a submission of the preliminary amendment filed on 2/11/2004. The changes to the specification are accepted.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 10/29/2003 and 5/12/2004 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show a switching means for switching resistors (See Specification, Pages 14 & 17) and also fails to show the connection of the circuitry with an engine (See Specification, Page 13), as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

Art Unit: 2836

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1, 4, 6, 13, 14, 18, & 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regard to Claim 1

Claim 1 recites the limitation of "...switching means via which each calibration resistor can be switched individually into a calibration network which is suitable for creation of an electric calibration voltage dependant on the value of the calibration resistor..." The specification and drawings fail to adequately support any form or use of "switching means". The drawings go as far as to omit the switches which are essential for the devices operation. The specification discloses "... the entire calibration network can be connected to the calibration resistor of interest in the most simple way with the switching resources not shown able to be designed very simply and except for decoupling diodes 163a-h, all components of the calibration network only having to be simple designs. To improve clarity the calibration resistors to be connected to the decoupling diodes 163b-h are not shown in the diagram." (See Specification, Page 17).

Because of the omission of the switching means in the figures and the lack of proper disclosure of the interconnection of the switching means and the switching network, the applicant has failed to adequately disclose how the "...calibration resistor can be switched individually..." or how "...the switching means can switch each calibration resistor in parallel to the reference resistor" (See Specification, Page 21).

In regard to Claim 4

Claim 4 recites the limitation of "... a decoupling diode is assigned to each calibration resistor via which it can be connected to the calibration network". The

Art Unit: 2836

specification fails to teach the diodes assigned to a resistor being connectable to the calibration network.

In regard to Claim 6

The specification fails to adequately disclose how the calibration resistances are sequentially set.

In regard to Claim 13

Claim 13 recites the limitation of the components comprising a plurality of injection valves of a high-pressure injection system of a diesel engine however the specification fails to adequately provide for the connection of the voltage network with injection valves. The drawings also fail to disclose the voltage network in connection with injection valves or a diesel engine.

In regard to Claim 14

The specification and figures fail to adequately disclose "controllable components" as well as assigning a resistor to a component, or switching of resistors. The method and physical components used to perform the method of "assigning" or switching is not adequately described.

Art Unit: 2836

In regard to Claim 18

The specification and figures fail to adequately disclose the use of the voltage network with any form of engine nor does it provide adequate disclosure for assigning a resistor to an injection valve, or switching a resistor into a network.

In regard to Claim 20

The specification and figures fail to adequately disclose switching a resistor in parallel to another resistor.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to Claim 1

Claim 1 recites the limitation "the resistance value" however a "resistor" or a "resistance value" is not previously disclosed. The examiner notes that a "calibration resistor" has been disclosed but this is not proper antecedent basis for the limitation of "the resistor". If the calibration resistor was meant to be provided for the limitation of

Art Unit: 2836

"the resistance value", then the claim should be recited as "the calibration resistor value". There is insufficient antecedent basis for this limitation in the claim.

In regard to Claim 2

Claim 2 recites the limitation of "...the maximum output voltage of the constant current source..." however the voltage output of a constant current source will be constant and will change only in response to a connected circuit. Therefore, the voltage output of the constant current source is not being limited but rather the voltage present in the interconnected circuit.

Claim 2 recites the limitation of "...the calibration network is arranged between this and a reference voltage source." It is unclear what the term "this" is referencing.

Claim 2 recites the limitation "the maximum output voltage" however a "maximum output voltage" is not previously disclosed. There is insufficient antecedent basis for this limitation in the claim.

In regard to Claim 3

Claim 3 recites the limitation of "...a 5V VCC supply voltage..." The limitation of "VCC" is unclear. It is unknown whether "VCC" is meant to be some form of label, which is unnecessary, or if it was meant to add some structural limitation to the claim, which it currently does not. Such a limitation should be positively recited.

Art Unit: 2836

In regard to Claim 4

Claim 4 recites the limitation of "... a decoupling diode is assigned to each calibration resistor via which it can be connected to the calibration network". It is unclear what is meant by "assigning" a diode to a resistor.

In regard to Claim 5

Claim 5 recites the limitation "the voltage drop" however a "voltage drop" at the decoupling diode is not previously disclosed. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "... decoupling diode assigned to each calibration resistor via which it can be connected to the calibration network". It is unclear what is meant by "assigning" a diode to a resistor.

The claim is grammatically incorrect and appears to be missing proper punctuation, specifically commas. The sentence "...the voltage drop at the decoupling diode assigned to each calibration resistor a common diode in series to the reference resistor is arranged..." is grammatically incorrect.

Art Unit: 2836

In regard to Claim 6

It is unclear what is meant by the phrase "...all calibration resistances can be sent sequentially with a measurement current..." It appears the word "sent" was mistakenly used when the word "set" was intended.

It is further unclear what is meant by sequentially setting the calibration resistances. The resistances are a fixed component with a fixed value so it is unclear how they can be "set".

In regard to Claim 8

The sentence is grammatically incorrect and is missing proper punctuation, specifically commas.

It is unclear what is being referenced as "the latter".

It is unclear what is meant by the limitation of "...the latter are provided with calibration resistors with different, and within the context of conventional manufacturing tolerances, fixed resistance values." Specifically, the limitation of providing "with different" is unclear as it is unclear what is being referred to as being "different".

In regard to Claims 9 & 20

The limitation "the components of the calibration network" however, calibration network "components" are not previously disclosed. If the applicant is referring to

Art Unit: 2836

components that have already been recited, then these components should be positively recited. There is insufficient antecedent basis for this limitation in the claim.

The limitation "the series of resistance values" is stated however a "series of resistance values" is not previously disclosed. There is insufficient antecedent basis for this limitation in the claim.

The term "about" is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

It is unclear what is meant by the limitation of "...two consecutive resistance values in the series of resistance values exhibit about the same difference for all resistance values." Furthermore, it is unclear what is meant by resistor values exhibiting the same difference for all resistance values. It is unclear what the term "difference" is referring to.

In regard to Claim 10

It is unclear what is meant by resistor values exhibiting the same difference for all resistance values relative to one of the two calibration voltages. It is further unclear what the term "difference" is referring to.

The limitation "the two calibration voltages" is stated however "two calibration voltages" are not previously disclosed. The examiner notes that claim 1 recites the limitation of "an electrical calibration voltage" however this voltage is singular and is not proper antecedent basis for a "calibration voltage" as an "electrical calibration voltage" was previously recited and not a "calibration voltage". There is insufficient antecedent basis for this limitation in the claim.

In regard to Claim 11

The term "of around" in claim 11 is a relative term which renders the claim indefinite. The term "of around" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

It is unclear what is meant by having a resistor value "of around" a specific value.

In regard to Claim 13

Claim 13 recites the limitation "the components" however, "components" are not previously disclosed. It is unclear what "components" are being referenced as they should be positively recited. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2836

In regard to Claim 15 & 16

It is unclear what is meant by injecting a voltage into another electrical component.

Because of the 112 problems stated above, no art can be applied to claims 1-20.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Vierling et al. (US 6,836,224)
- McCoy et al. (US 6,651,629)
- McCoy et al. (US 6,516,658)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

April 3, 2006



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